

Appln No. 10/070,077

Amdt date May 26, 2004

Reply to Office action of February 26, 2004

REMARKS/ARGUMENTS

Claims 1-7 will be pending in this application after entry of the above amendments. Claims 1 and 3 have been amended. Claims 4-7 have been added. The amendments find full support in the original specification, claims, and drawings. No new matter has been added. In view of the above amendments and remarks that follow, reconsideration, reexamination, and an early indication of allowance of claims 1-7 are respectfully requested.

The specification has been amended to correct minor typographical errors in the reference numberings. No new matter has been added.

The Examiner objects to claims 1 and 3 due to certain informalities. Applicant has amended these claims to correct the informalities. No new matter has been added. Withdrawal of the objection is therefore respectfully requested.

The Examiner rejects claim 1 and 3 under 35 U.S.C. 103(a) as being unpatentable over Massen (U.S. Patent No. 4,887,155). Applicant respectfully traverses this rejection.

Claim 1 recites an "[a]pparatus for detecting speed and twist rate in a cable having . . . a first sensor having a first light source and a first detection means . . . , and means for processing outputs of the first detection means . . . , characterised by a second sensor . . . having a second light source and a second detection means . . . , and in that the means for processing determines said actual speed of the cable from

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output of said first and second sensors." Claim 3 is a method counterpart to claim 1.

The Examiner contends that Massen discloses all of the limitations of claims 1 and 3 except that "Massen does not teach producing a signal representative of the actual speed of the cable." To make up for this deficiency, the Examiner argues that it would have been obvious to produce a signal representative of the actual speed in the method of Massen to control the rate and lengths of produced cable and increase the reliability of the twist rate measurements.

Applicant respectfully disagrees. Massen is basically concerned with determining the twists or turns per unit length in a yarn or rope. Massen does this by taking an image of a portion of the yarn, digitizing the image, and then analyzing the digital data to provide a signal indicative of the twist per unit length. Where the yarn is moving, a series of images are taken, digitized, analyzed, and variations in the twist per unit length determined. There is no indication anywhere that Massen's method of determining the twists or turns is unreliable, or that its reliability would be increased by the determination of the actual speed of the yarn.

In fact, no speed calculation is necessary, nor even desirable, in Massen to determine the twists or turns per unit length in a yarn or rope. This is clearly expressed in the portion of Massen that states that "[s]ince these data can be obtained from a digitally stored two-dimensional image of the yarn or rope it is of no consequence whether this image was picked up from a stationary yarn or rope or one moving with a

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speed of any magnitude." (Col. 2, lines 53-58). Thus, if anything, Massen teaches away from a method of determining twists or turns per unit length that would require speed calculations.

Even, if arguendo, Massen's radiation source could notionally be divided into left and right parts as argued by the Examiner, Massen's system still does not allow the measurement of the speed of the yarn without further innovation. For instance, in order to use Massen's system to calculate speed, one would need to put a marker of some sort on the yarn to allow it to be detected by the left part of the radiation source, and then by the right part of the radiation source. An elapsed time between the two measurements would then be computed. None of this is taught or even suggested by Massen, and indeed, it would be impracticable to do so since the yarn would be moving at high speed and markers would have to be continuously applied.

The Examiner relies on the fact that "Massen teaches taking consecutive images while the cable is moving" to contend that "it is well known in the art to use consecutive images in order to determine traversed distance, and therefrom, determine the speed of a moving object." (Office action, p. 4, lines 8-13). Applicant respectfully disagrees that Massen's merely teaching of the taking of consecutive images while the cable is moving would have made it obvious to modify Massen to use the images to determine the actual speed of the yarn. Therefore, Applicant respectfully requests that the rejection of independent claims 1 and 3 under 35 U.S.C. § 103 be withdrawn.

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However, if the Examiner insists on maintaining this rejection, Applicant respectfully requests that the Examiner provide a reference in support of the Examiner's proposition that it is "well known in the art to use consecutive images to determine traversed distance" in order to allow Applicant to further consider the rejection.

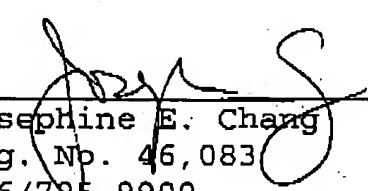
Claim 2 is also in condition for allowance because it depends on independent claim 1, and for the additional limitations contained therein.

Claims 4-7 are new in this application. These claims are also in condition for allowance because they contain limitations that are neither taught nor suggested in the cited references.

In view of the above amendments and remarks, Applicant respectfully requests an early indication of allowance of the now pending claims 1-7.

Respectfully submitted,
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